AMENDMENTS TO THE CLAIMS

1. (**Original**) A biocompatible laminate fabric comprising:

a porous first membrane layer,

a porous second membrane layer,

an open mesh bonding layer between the first and second membrane layers,

wherein the bonding layer holds the first and second membrane layers together by extending into one or more pores of each membrane layer.

2. (**Original**) The biocompatible laminate fabric of Claim 1, wherein an element of a support structure is disposed between the first and second membrane layers.

3. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric retains sufficient porosity to facilitate cellular ingrowth.

4. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric retains sufficient porosity to facilitate cellular attachment.

5. (**Original**) The biocompatible laminate fabric of Claim 1, having an average thickness within the range of about 0.001 inches to about 0.010 inches.

6. (**Original**) The biocompatible laminate fabric of Claim 1, having an average thickness of less than about 0.005 inches.

7. (**Original**) The biocompatible laminate fabric of Claim 1, having an average thickness of less than about 0.003 inches.

8. (**Original**) The biocompatible laminate fabric of Claim 1, having an average thickness of less than about 0.002 inches.

9. (**Original**) The biocompatible laminate fabric of Claim 1, having an average thickness of about 0.0015 inches.

10. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric is no more than about three times as thick as the first membrane layer.

11. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric is no more than about twice as thick as the first membrane layer.

12. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric is no more than about three times as thick as the second membrane layer.

13. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the biocompatible laminate fabric is no more than about twice as thick as the second membrane layer.

14. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average thickness before bonding to the first membrane layer within the range of about 0.0005 inches to about 0.005 inches.

15. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average thickness within the range of about 0.0008 inches to about 0.004 inches.

16. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average thickness within the range of about 0.0009 inches to about 0.003 inches.

17. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average thickness within the range of about 0.001 inches to about 0.002 inches.

18. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average pore cross section within the range of about 0.005 inches to about 0.200 inches.

19. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average pore cross section within the range of about 0.020 inches to about 0.080 inches.

20. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average spacing between adjacent pores within the range of about .0005 inches to about 0.400 inches.

21. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average open surface area within the range of about 10% to about 90%.

22. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the bonding layer has an average open surface area within the range of about 30% to about 60%.

23. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the softening point of the bonding layer is within the range of about 100°F to about 300°F.

24. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the softening point of the bonding layer is within the range of about 200°F to about 400°F.

25. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the melting point of the bonding layer is within the range of about 100°F to about 300°F.

26. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the first membrane layer has an average thickness within the range of about 0.0005 inches to about 0.010 inches.

27. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the first membrane layer has an average thickness within the range of about 0.001 inches to about 0.002 inches.

28. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the first membrane layer has an average open surface area within the range of about 10% to about 80%.

29. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the first membrane layer has an average open surface area within the range of about 30% to about 60%.

30. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the softening point of the first membrane layer is within the range of about 150°F to about 500°F.

31. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the softening point of the first membrane layer is within the range of about 200°F to about 400°F.

32. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the melting point of the first membrane layer is within the range of about 150°F to about 500°F.

33. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the melting point of the first membrane layer is within the range of about 200°F to about 400°F.

34. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the difference between the softening point of at least one of the first and second membrane layers and the softening point of the bonding layer is within the range of about 25°F to about 200°F.

35. (**Original**) The biocompatible laminate fabric of Claim 1, wherein the difference between the softening point of at least one of the first and second membrane layers and the softening point of the bonding layer is within the range of about 50°F to about 100°F.

36. (**Original**) An implantable medical device comprising a biocompatible laminate fabric and a support structure, wherein the biocompatible laminate fabric comprises:

a porous first membrane layer,

a porous second membrane layer, and

an open mesh bonding layer between the first and second membrane layers,

wherein the bonding layer holds the first and second membrane layers together by extending into one or more pores of each membrane layer.

37. (**Original**) The implantable medical device of Claim 36, wherein an element of the support structure is disposed between the first and second membrane layers.

38. (**Original**) The implantable medical device of Claim 36, wherein the biocompatible laminate fabric retains sufficient porosity to facilitate cellular ingrowth.

39. (**Original**) The implantable medical device of Claim 36, wherein the biocompatible laminate fabric retains sufficient porosity to facilitate cellular attachment.

40. (**Original**) The implantable medical device of Claim 36, wherein the biocompatible laminate fabric has an average thickness within the range of about 0.001 inches to about 0.010 inches.

41. (**Original**) The implantable medical device of Claim 36, wherein the biocompatible laminate fabric has an average thickness less than about 0.003 inches.

42. (**Original**) The implantable medical device of Claim 36, wherein the implantable medical device is a left atrial appendage implant.

43. (**Original**) A method of making a biocompatible laminate fabric comprising;

heating a first membrane layer, a second membrane layer and an open mesh bonding layer, under pressure, until the bonding layer becomes sufficiently soft that it flows into pores of each of the first and second membrane layers.

44. (**Original**) The method of Claim 43, wherein the layers are heated to a temperature that is at least the softening point of the bonding layer but no more than the softening point of the first and second membrane layers.

45. (**Original**) The method of Claim 44, wherein the layers are heated to a temperature that is within the range of about 100°F to about 200°F.

46. (**Original**) The method of Claim 44, wherein the layers are heated under a pressure that is sufficient to allow at least some of the bonding layer to flow into at least one of the pores of each of the first and second membrane layers.

47. (**Original**) The method of Claim 44, wherein the layers are heated under a pressure that is within the range of about 30 psi to about 300 psi.

48. (**Original**) The method of Claim 44, wherein the layers are heated under pressure for a period of time that is sufficient to allow at least some of the bonding layer to flow into at least one of the pores of each of the first and second membrane layers.

49. (**Original**) The method of Claim 44, wherein the layers are heated under pressure for a period of time that is within the range of about 1 minute to about 5 minutes.

50. (**Original**) A method of attaching a biocompatible laminate fabric to a support structure, comprising the steps of:

providing an assembly comprising a first membrane layer, a second membrane layer, an open mesh bonding layer, and an element of a support structure disposed between the first and second membrane layers, and

heating the assembly under pressure until the bonding layer becomes sufficiently soft that it flows into pores of each of the first and second membrane layers.

51. (**Original**) The method of Claim 50, wherein the support structure is a component of an implantable medical device.

52. (**Original**) An implantable medical device, comprising:

a support structure;

a porous first membrane layer, carried by the support structure; and

an open mesh bonding layer between the porous membrane layer and the support structure,

wherein the bonding layer secures the first membrane layer to the support structure by extending into one or more pores of the membrane layer.

53. (**Original**) An implantable medical device, comprising:

a support structure;

a porous first membrane layer, carried by the support structure; and

an open mesh bonding layer between the porous membrane layer and the support structure,

wherein the bonding layer secures the first membrane layer to the support structure by extending around a portion of the support structure and bonding to itself.

54. (**Original**) A composite membrane suitable for use as a medical device lamination, comprising:

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane, and wherein the composite membrane has a composite membrane open surface area in the range between about 10% and about 50%.

55. (**Original**) The composite membrane of Claim 54, wherein the first membrane comprises ePTFE.

56. (**Original**) The composite membrane of Claim 54, wherein the first membrane comprises a thickness in the range of from about 0.0005 inches to about 0.10 inches.

57. (**Original**) The composite membrane of Claim 54, wherein the first membrane pores comprise an average pore diameter in the range of from about 1 μm to about 200 μm.

58. (**Original**) The composite membrane of Claim 54, wherein the first membrane comprises an internodal distance in the range of from about 10 μm to about 100 μm.

59. (**Original**) The composite membrane of Claim 54, wherein the bonding layer comprises polyethylene.

60. (**Original**) The composite membrane of Claim 54 further comprising a thickness, wherein the thickness is in the range of from about 0.001 inches to about 0.010 inches.

61. (**Original**) A laminated medical device, suitable for implantation within a medical patient, comprising:

a frame;

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane, and wherein the composite membrane has a composite membrane open surface area in the range between about 10% and about 50%.

62. (**Original**) The laminated medical device of Claim 61, wherein the frame is configured for use as an atrial appendage occlusion device.

63. (**Original**) The laminated medical device of Claim 61, wherein the frame is configured for use as a stent.

64. (**Original**) The laminated medical device of Claim 61, wherein the frame is configured for use as a septal defect closure device.

65. (**Original**) The laminated medical device of Claim 61, wherein the frame is configured for use as an embolic protection device.

66. (**Original**) The laminated medical device of Claim 61, wherein the frame comprises a proximal hub, a distal hub, and struts spanning therebetween.

67. (**Original**) The laminated medical device of Claim 66, wherein the struts are formed by cutting slots out of a tube.

68. (**Original**) The laminated medical device of Claim 61, wherein the frame comprises a stent.

69. (**Original**) A method of blocking the passage of embolic material, comprising:

providing a medical device having a first membrane, the first membrane having first membrane pores, a second membrane, the second membrane having second membrane pores, and a mesh bonding layer, the mesh bonding layer having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second

membrane are at least partially attached to the mesh bonding layer to form a composite membrane; and

delivering the medical device to a desired treatment location in a patient, wherein the composite membrane has a composite membrane open surface area in the range between about 10% and about 50%, wherein the composite membrane open surface area permits tissue ingrowth through the composite membrane and across at least one of the first and second membranes, and wherein the composite membrane blocks the passage of embolic material across the composite membrane.

70. **(Original)** The method of Claim 69, wherein the desired treatment location is a left atrial appendage.

71. **(Original)** The method of Claim 69, wherein the desired treatment location is a septal defect.

72. **(Original)** The method of Claim 69, wherein the desired treatment location is near an occlusion in a vessel.

73. **(New)** An atrial appendage occlusion device, suitable for implantation within a medical patient, comprising:

a frame configured for use as an atrial appendage occlusion device;

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane.

74. **(New)** A stent, suitable for implantation within a medical patient, comprising:

a frame configured for use as a stent;

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane.

75. (New) A septal defect closure device, suitable for implantation within a medical patient, comprising:

a frame configured for use as a septal defect closure device;

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane.

76. (New) An embolic protection device, suitable for implantation within a medical patient, comprising:

a frame configured for use as an embolic protection device;

a first membrane, having first membrane pores;

a second membrane, having second membrane pores;

a mesh bonding layer, having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane.

77. (New) A method of occluding an atrial appendage, comprising:

providing an atrial appendage occlusion device having a first membrane, the first membrane having first membrane pores, a second membrane, the second membrane having second membrane pores, and a mesh bonding layer, the mesh bonding layer having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane; and

delivering the atrial appendage occlusion device to an atrial appendage in a patient, wherein the composite membrane has a composite membrane open surface area, wherein the composite membrane open surface area permits tissue ingrowth through the composite membrane and across at least one of the first and second membranes.

78. (New) A method of applying a stent, comprising:

providing a stent having a first membrane, the first membrane having first membrane pores, a second membrane, the second membrane having second membrane

pores, and a mesh bonding layer, the mesh bonding layer having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane; and

delivering the stent to a desired treatment location in a patient, wherein the composite membrane has a composite membrane open surface area, wherein the composite membrane open surface area permits tissue ingrowth through the composite membrane and across at least one of the first and second membranes.

79. (New) A method of closing a septal defect, comprising:

providing a septal defect closure device having a first membrane, the first membrane having first membrane pores, a second membrane, the second membrane having second membrane pores, and a mesh bonding layer, the mesh bonding layer having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane; and

delivering the septal defect closure device to a septal defect in a patient, wherein the composite membrane has a composite membrane open surface area, wherein the composite membrane open surface area permits tissue ingrowth through the composite membrane and across at least one of the first and second membranes.

80. (New) A method of blocking the passage of embolic material, comprising:

providing a medical device having a first membrane, the first membrane having first membrane pores, a second membrane, the second membrane having second membrane pores, and a mesh bonding layer, the mesh bonding layer having a bonding layer open surface area and bonding layer pores, wherein the first membrane and second membrane are at least partially attached to the mesh bonding layer to form a composite membrane; and

delivering the medical device to a desired treatment location in a patient, wherein the composite membrane has a composite membrane open surface area, and wherein the composite membrane blocks the passage of embolic material sized larger than pores of the composite membrane across the composite membrane.